Common Natural GBP Operating Functions under OS/390 and VSE/ESA

This section provides a summary of those operating functions of the Natural global buffer pool which are identical under OS/390 and VSE/ESA.

This document covers the following topics:

- Global Buffer Pool Operating Functions
- Global Buffer Pool Function Parameters
- Examples of NATBUFFER Specifications

Global Buffer Pool Operating Functions

The following functions are available:

CREATE | FSHUT | REFRESH | SHOWBP | TERMINATE

Note:
If no function is specified, CREATE is assumed.

CREATE - Create Global Buffer Pool

This function creates a global buffer pool with the specified parameters.

FSHUT - Shut Down Global Buffer Pool

The global buffer pool is shut down, and the storage area is released.

If there are no active objects in the buffer pool, FSHUT is executed immediately.

If there are still active objects in the buffer, this will be indicated to the operator. Depending on the setting of the parameter CONFIRM, the operator is asked for a confirmation or FSHUT is executed immediately.

REFRESH - Re-initialize Global Buffer Pool

With the REFRESH command it is possible to re-initialize an already active buffer pool. As no storage allocation takes place, the buffer pool size and location (above or below 16 MB) remain unchanged. However, it is possible to change the text-block size (see NATBUFFER parameter).

SHOWBP - Show Existing Buffer Pools

Displays all buffer pools currently existing.

TERMINATE - Terminate GBP Operating Program

The GBP operating program is terminated. This termination does **not** affect any active global buffer pool.

Global Buffer Pool Function Parameters

The functions of the Natural GBP operating program can be controlled with the aid of parameters. These parameters can be specified in any sequence. They can be abbreviated so that they are still unique.

Note:
If you like to start multiple global buffer pools with an associated cache, you are recommended to use a single job or (under OS/390 only) a single started task and to supply the different CREATE commands in an input dataset.
See Example 4 in the section Natural Global Buffer Pool under OS/390.
See Example 4 in the section Natural Global Buffer Pool under VSE/ESA.

The following parameters are available:

BPNAME | BPLIST | BPCSIZE | CONFIRM | IDLE | NATBUFFER | PLUGIN | RESIDENT | SUBSID | TYPE

BPNAME - Name of Global Buffer Pool

This parameter is mandatory (except for the TERMINATE function). It specifies the name of the global buffer pool to be created.

BPNAME=*name*	*name* is the 8-byte name of the global buffer pool. If the specified name is shorter than 8 bytes, blanks will be appended to it.

BPLIST - Name of Preload List

This parameter specifies the name of the preload list.

BPLIST=*name*	*name* is the 8-byte name of the preload list. If the specified name is shorter than 8 bytes, blanks will be appended to it.

BPCSIZE - Buffer Pool Cache Size

This parameter specifies the amount of storage (in KB) used to allocate a data space for the buffer pool cache.

BPCSIZE=*size*	*size* is the amount of storage (in KB) used to allocate a data space for the buffer pool cache. The valid range is 100 - 2097148. If the BPCSIZE parameter is omitted (or set to zero), the buffer pool is not supplied with a cache. This parameter implies PLUGIN=BP. Note: A cache is only supported for buffer pools of TYPE=NAT.

CONFIRM - FSHUT Confirmation

This parameter controls the FSHUT behavior if there are still active objects in the buffer pool.

CONFIRM=Y	A confirmation for the FSHUT function is required from the operator. The operator can decide to abort or to force the FSHUT function. This is the default value.
CONFIRM=N	FSHUT is forced without interaction with the operator.

This parameter is only valid for the FSHUT command it has been specified with, that is, CONFIRM has to be specified with each FSHUT parameter, and it does not apply to subsequent FSHUT commands.

IDLE - Wait Time before Check

This parameter is ignored when the task does not own a buffer pool cache.

IDLE=*nn*	*nn* is the number of seconds to elapse before the GBP operating program checks for each buffer pool cache if its associated buffer pool is still active; if not that buffer pool cache is released; when the last buffer pool cache owned by the task has been released, the task terminates, unless RESIDENT=Y has been specified. The default setting is 60 seconds.

Once specified, IDLE will also apply to subsequent commands, without your having to specify it again.

NATBUFFER - Buffer Size, Mode, Text Block Size

This parameter specifies the size and the mode of the buffer pool, and the text block size.

NATBUFFER=*(size,mode,tsize)*	*size* is the amount of storage (in KB) to be allocated. The default is 100 KB; this is also the minimum possible size. *mode* determines if the global buffer pool is to be allocated above or below 16 MB. Possible values are: XA = above (default), BL = below. *tsize* determines the text block size (in KB). Possible values are: 1, 2, 4 ,8, 12, and 16. The default is 4. *size*, *mode* and *tsize* have to be specified in the sequence shown above.

If NATBUFFER is not specified, the default values will be used. See also Examples of NATBUFFER Specifications below.

PLUGIN - Enable Natural Turbo Performance Plug-In

This parameter must be used to enable the Natural Turbo Performance Plug-In.

PLUGIN=BP	The Natural Turbo Performance Plug-In is enabled. This means, the buffer pool is initialized with hash table support. **Attention:** You have to specify PLUGIN=BP in the Natural profile of each Natural session that is to access this buffer pool.
PLUGIN=NOBP	The Natural Turbo Performance Plug-In is not enabled. This means, the buffer pool is initialized without hash table support. This buffer pool can be accessed by any Natural session, regardless of its PLUGIN setting in its profile. This is the default setting.

RESIDENT - Behavior after Function Execution

This parameter specifies the behavior of the GBP operating program after the specified function has been executed. The following values are possible:

RESIDENT=Y	The GBP operating program will remain active after executing the specified function and await further commands. Once specified, RESIDENT=Y will also apply to subsequent commands, without your having to specify it again. (To stop the GBP operating program, you use the TERMINATE function.).
RESIDENT=N	The GBP operating program will terminate after executing the specified function, if no further command is available. If the task owns a buffer pool cache, RESIDENT=N is ignored and the task is not terminated.
RESIDENT=A	The GBP operating program automatically decides how to behave after having processed all commands. It will terminate if • no further command is available and • no buffer pool with an associated cache exists that was created by this task. In other words: If no buffer pool cache is owned by the task, RESIDENT=A works in the same way as RESIDENT=N. When the task owns a buffer pool cache, RESIDENT=A works the same way as RESIDENT=Y, but switches automatically to RESIDENT=N, when the last buffer pool whose associated buffer pool cache was owned by this task has terminated. This is the default setting.

SUBSID - Natural Subsystem ID

This parameter specifies the ID of the Natural subsystem.

SUBSID=*id*	*id* is the 4-byte ID of the Natural subsystem. Once specified, SUBSID will also apply to subsequent commands, without your having to specify it again. The default value is "NAT3".

If you use this parameter in conjunction with the function SHOWBP, you may supply the value "*" to receive a buffer pool list for all existent subsystems.
For further information on the Natural subsystem, see Natural Subsystem (OS/390) or Natural Subsystem (VSE/ESA).

TYPE - Type of Buffer Pool

This parameter specifies the type of the buffer pool. Possible values are:

TYPE=NAT	Natural buffer pool (this is the default).
TYPE=SORT	Sort buffer pool.
TYPE=DLI	DL/I buffer pool.
TYPE=EDIT	Editor buffer pool.
TYPE=MON	Monitor buffer pool.
TYPE=DCOM	DCOM buffer pool (under OS/390 only).

Examples of NATBUFFER Specifications

- To allocate a global buffer pool above 16 MB, with a size of 1 MB and a text block size of 1 KB, you specify:
  `N=(1000,,1)`
- To allocate a global buffer pool above 16 MB, with a size of 10 MB and a text block size of 4 KB, you specify:
  `N=(10000)`
- To allocate a global buffer pool above 16 MB, with a size of 100 KB and a text block size of 4 KB, you specify:
  `N=(,,)`

The third example is equivalent to omitting the NATBUFFER parameter altogether, as it causes the default values to apply.